

Application No. 10/620,176

REMARKS

Claims 1-52 are pending. By this Amendment, claims 23 and 40-52 are cancelled without prejudice, claims 17 and 24-25 are amended, and new claims 53-63 are added. Claims 1-16 and 29-39 have been withdrawn. Applicants note that the number of new claims is less than the number of canceled claims.

Claims 17 has been amended to more particularly point out Applicants' claimed invention by incorporating features of claim 23 and to more clearly illustrate that irradiation of the photosensitive optical material is performed for a selected period of time with light having an intensity and wavelength to induce the gradient index-of-refraction along a irradiation direction. No new matter is introduced by the amendment of the claim. Claims 24 and 25 have been amended to correct claim dependency in view of the cancellation of claim 23.

New claims 53-63 are supported, for example, by claims 17-28, as filed, and at page 3, lines 18-26, page 9, lines 17-22, page 26, lines 3-21, page 42, line 17 - page 43, line 7, and page 46, lines 4-12. No new matter is introduced by the new claims. Furthermore, Applicants note that claim 53 incorporates features from original claims 17 and 26, and the other new claims also incorporate features of the original claims. Since the new claims are based off of original claim 17, the claims are clearly within the elected species and group.

All of the pending claims stand rejected. Applicants respectfully request reconsideration of the rejections based on the following analysis.

Drawing Objection

The Examiner objected to the drawings under 37 CFR 1.84(p)(4) stating that reference character "178" has been used to designate both a funnel section and a delivery section. Applicants do not believe that there is an error and point the Examiner to Figs. 4 and 5 and the specification at page 20, lines 20-30 as depicting and describing the delivery and funnel sections as reference characters "178" and "180," respectively. Specifically, referring to Figs. 4 and 5, reference character "178" is used only to designate the delivery section in both figures and

Application No. 10/620,176

reference character "180" is used only to designate the funnel section in both figures. Therefore, the objection seems to be in error and no correction seems appropriate. If Applicants have misunderstood the Examiner's objection, Applicants respectfully request the Examiner to clarify the drawing objection. However, since the drawings appear to be correct, Applicants respectfully request withdrawal of the objection to the drawings.

Restriction Requirement

The Examiner imposed a restriction requirement under 35 U.S.C. §121 between three groups of claims. Applicants elect Group I (claims 1-39) without traverse. In view of the election, claims 40-52 have been cancelled without prejudice.

The Examiner further imposed an election of species requirement within three species groups. With respect to the Group I claims, Applicants elect species group 2 (claims 17-28) with traverse. A restriction requirement is not proper if the search and examination of an entire application can be made without serious burden. See, e.g., MPEP § 803 ("If the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to independent or distinct inventions."), emphasis added. If the classification for distinct claims is the same, the field of search is the same, and there is no clear indication of separate future classification and field of search, then there is no reason to divide among related inventions. MPEP § 808.02 ("Where, however, the classification is the same and the field of search is the same and there is no clear indication of separate future classification and field of search, no reasons exist for dividing among related inventions.") In the present case, the Examiner can examine claims 1-39 without significant burden because all of the claims of Group I are in both the same classification and sub-classification. As such, the same would be reviewed for all of the claims of Group I. Applicants respectfully request withdrawal of the Examiner's election of species requirement.

Application No. 10/620,176

Claim Objection

The Examiner objected to claim 23 indicating that the phrase "the irradiation direction" lacked antecedent basis. Applicants thank the Examiner for a careful reading of the claims. To clarify this issue, because the features of claim 23 have been incorporated into claim 17, Applicants have amended claim 17 to correct the antecedent basis of "the irradiation direction." Applicants respectfully request the withdrawal of the objection.

Rejection Over Payne under 35 U.S.C. § 102

The Examiner rejected claims 17 and 18 under 35 U.S.C. § 102(e) as being unpatentable over U.S. Patent No 6,160,944 to Payne ("Payne"). To advance prosecution of the case, Applicants have amended claim 17 to more particularly point out Applicants' claimed invention by incorporating the features of claim 23 and to more clearly illustrate that irradiation of the photosensitive optical material is performed for a selected period of time with light having an intensity and wavelength to induce the gradient index-of-refraction along a irradiation direction. Payne does not teach or suggest performing irradiation for a selected time period to introduce a gradient in index of refraction. With respect to specific features noted by the Examiner in claim 18, these issues are not commented on further here because they are presently moot given the above analysis, although Applicants do not acquiesce in the Examiner's position. As such, because Payne does not include every element as set forth in claim 17, either expressly or inherently, Applicants respectfully request withdrawal of the rejection of claims 17 and 18 under 35 U.S.C. § 102(e) as being anticipated by Payne.

Rejection Over Payne under 35 U.S.C. § 103(a)

The Examiner rejected claims 19-28 under 35 U.S.C. § 103(a) as being unpatentable over Payne. To advance prosecution of the case, Applicants have amended claim 17 to clarify the scope of their invention and include the elements of claim 23. Applicants respectfully request reconsideration of the rejection in view of the following comments.

Application No. 10/620,176

"To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure." MPEP § 2142 (citing In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)).

The Examiner has not established a prima facie case of obviousness of Applicants' claimed invention since the cited reference does not teach or suggest all of the features included in claim 17, as amended. Prima facie obviousness is not established if all the elements of the rejected claim are not disclosed or suggested in the cited art. In re Ochiai, 37 USPQ 1127, 1131 (Fed. Cir. 1995). ("The test for obviousness *vel non* is statutory. It requires that one compare the claim's 'subject matter as a whole' with the prior art 'to which said subject matter pertains.'"). See also, MPEP § 2143.03 "All Claim Limitations Must Be Taught or Suggested," citing In re Royka, 180 USPQ 580 (CCPA 1974). "**To establish prima facie obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art.**" MPEP § 2143.03.

Specifically, as stated above, Payne does not teach or suggest performing irradiation for a selected time period, but rather merely discloses the ability of combining writing techniques if the writing laser beam does not saturate the photosensitive response of the photosensitive glass. Payne teaches that this combination can be used to form a grating and not a gradient. As such, Payne does not teach or suggest all of the features included in claim 17.

With respect to specific features noted by the Examiner in the claims depending from claim 17, these issues are not commented on further here because they are presently moot given the above analysis, although Applicants do not acquiesce in the Examiner's position. See

Application No. 10/620,176

MPEP § 2143.03 ("If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious.") As such, Applicants respectfully request withdrawal of the rejection of claims 19-22, and 24-28 as being unpatentable over Payne.

Claims 53-63

Applicants note that the cited reference does not teach or suggest a gradient in composition of a dopant that induces photosensitivity of the material wherein the composition gradient results in the index-of-refraction gradient following illumination. Under the Examiner's section 103(a) rejection, with respect to claim 26, the Examiner cited Payne as teaching such a limitation. However, there is no teaching or suggestion in Payne of a **gradient in composition of a dopant**. Payne merely discloses that a "non-cyclic (e.g. linear) refractive index variation is generated along a length of waveguide." Col. 3, lines 8-9. Payne does not teach or suggest using a **gradient in composition of a dopant** to create such a refractive index variation. As such, Applicants respectfully request favorable consideration and prompt allowance of new claim 53 and the claims depending therefrom.

Conclusions

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested.

Application No. 10/620,176

The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,



Peter S. Dardi
Registration No. 39,650

Customer No. 24113
Patterson, Thuente, Skaar & Christensen, P.A.
4800 IDS Center
80 South 8th Street
Minneapolis, Minnesota 55402-2100
Telephone: (612) 349-5746